

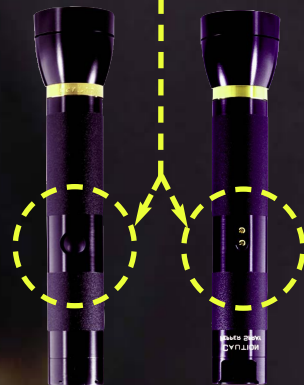
UNDERSHERIFF'S OFFICE Special Projects

New Technologies The Tiger Light and the long range/directed and magnetic acoustic devices are part of the Department's on-going efforts to make the job easier through the use of new technologies.

Tiger Light OC (Oleoresin Capsicum Chemical Aerosol) Personal Defense System

The Tiger Light enables a deputy to have his OC spray available at all times without the need to draw a separate OC spray device. It is a combined flashlight with a pepper spray aerosol concealed in the end of the light. The Tiger Light is built with high grade aircraft aluminum and contains a Nickel Metal Hydride (NiMH) rechargeable battery. It is about 11 inches long and weighs 23 ounces. The OC spray is effective between 3 and 15 feet and does not require re-gripping the flashlight to deploy.

Because of the controversy surrounding the use of flashlights as an impact weapon, coupled with the difficulty in carrying the variety of equipment currently in use on a Sam Browne gun belt, this device has the potential of providing a defensive weapon without resorting to using the flashlight as an impact device and/or dropping the flashlight to retrieve pepper spray from a belt holder. **It is also less visibly offensive, as the public would not be aware that we, in fact, have an OC device in our hands, but rather they see only a flashlight.** If successful, this device might eliminate the necessity of carrying pepper spray as a separate container on the gun belt altogether.



Long-Range Directed and Magnetic Acoustic Device (MAD)

The MAD would enable us to warn citizens of the use of a canine (K-9) for an area search, missing persons public address broadcasts, or riot announcements. Although the technology is in the prototype stage, it is expected to provide the ability to move sound waves over one mile of free space!

This technology uses magnets instead of speakers to move soundwaves. Because it uses a different wave form, the sound wave is nearly evenly distributed along the energy path with minimal distortion. The energy path is extremely precise, with little loss of volume and nearly no loss of clarity over free space for a theoretically unlimited distance, limited only by the amount of

power that is input. The magnetic array contains 96 speakers. Each component is capable of operating as a separate speaker, and can be arranged to increase or decrease the width and range of the energy lobe.

The MAD has application in crowd control and movement management, stopping potential riot situations, long range hailing (evacuations, warnings, command and control, et cetera). Furthermore, because of the ability to move the sound over long distances, some frequencies may provide a non-lethal option with irritating sounds. Because there is no decontamination time or altering of the environment, it may provide alternatives to chemical riot control agents.



This aerial view depicts a proof of concept test conducted at the Peter Pitchess Detention Center on August 4th, 2005.

The transmitter was located at the Special Enforcement Bureau Long Rifle Range and the one mile target was near the heliport along the wash next to the 5 Freeway.

A close-up view of the 6 x 9.25 inches magnetic speakers.

